REMARKS

By the present Amendment, claims 19, 27, 32 and 33 are amended. In addition, claims 1-18 had been withdrawn from consideration as being directed to non-elected subject matter and are cancelled herein without prejudice or disclaimer. New claims 37 and 38 are added. Accordingly, claims 19-38 are pending in the application. Re-examination and reconsideration of the application, as amended, are requested.

Claims 32 and 36 were objected to for reasons noted by the Examiner. In particular, the Examiner stated that the phrase "a gap" in line 2 of claim 32 is unclear with regard to whether the "gap" refers to the gap of claim 31 or an additional gap. In response, claim 32 is amended herein to remove the reference to "a gap."

With regard to claim 36, the Examiner stated that it is unclear whether the phrase "a free layer" refers to the "free layer" in claim 27 or another free layer. In response, claim 36, as amended herein, refers to "the" free layer of claim 27. The objections to claims 32 and 36 are believed to be overcome by the present Amendment. Accordingly, Applicant requests that the objection to claims 32 and 36 be withdrawn.

Claims 19-21 and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fontana, Jr. et al. (USP 6,680,832). Claims 27-29 and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the same Fontana, Jr. et al. reference. Claims 22, 23, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the same Fontana, Jr. et al. reference in view of Childress et al. (U.S. Published Appl. 2003/0214763). .Each of those rejections is respectfully traversed, in view of the claims as amended herein and the following remarks.

More specifically, independent claims 19 and 27, as amended herein, recite a read head that is neither described nor suggested by Fontana, Jr. et al. or Childress et al., alone or in combination. For example, as amended, claim 19 recites a read head comprising a GMR spin valve stack including at least a pinned layer, a free layer, and a stabilization layer including a pair of separated regions of patterned exchange bias material, each region of patterned exchange bias material being disposed over a respective one of opposite ends of the free layer; and a pair of shields, one disposed on either side of the GMR spin valve stack, with one of the shields being

formed to include integral side shields that substantially enclose the free layer between the pair of shields. An example of a read head as recited in claim 19 is shown in Fig. 7 of the present application.

Neither Fontana et al. nor Childress et al. disclose or suggest a read head having a structure as recited in amended claim 19. Instead Fontana et al. describe a bias stack 40 that is disposed over the free layer 38. Fontana et al.'s bias stack 40 has a width (from end to end) that extends over the entire width of the free layer 38 and, thus, is not "a pair of separated regions of patterned exchange bias material," where each region is "disposed over a respective one of opposite ends of the free layer." Similarly, Childress et al. also does not disclose or suggest a pair of separated regions of patterned exchange bias material, where each region is disposed over a respective end of the free layer. Accordingly, it is submitted that claim 19 is patentably distinguished from the Fontana et al. and Childress et al. references (alone or in combination). The rejection of claim 19 over Fontana et al. is, therefore, respectfully traversed.

Claims 20-26 are dependent (directly or indirectly) on claim 19 and, thus, are believed to be allowable over the Fontana et al. and Childress et al. references (alone or in combination), at least for reasons as discussed above with respect to independent claim 19. Accordingly, the rejections of claims 20-26 are respectfully traversed.

Claim 27, as amended herein, recites a read head comprising a GMR spin valve stack including at least a pinned layer and a free layer; a pair of shields, one disposed on either side of the GMR spin valve stack, with one of the shields being formed to include integral side shields that substantially enclose the GMR spin valve stack between the pair of shields; and an insulated layer of permanent magnet material disposed between the shields and abutting the free layer.

Neither Fontana et al. nor Childress et al. disclose or suggest a read head having a structure as recited in amended claim 27. Instead Fontana et al. describe stack structure in which a free layer 38 is abutted on two opposed sides by side shield material 52 (described by Fontana et al. as an oxide such as alumina) in Fontana et al.'s Fig. 1 or abutted on two opposed sides by oxide layer 14 (described by Fontana et al. as silicon dioxide) in Fontana et al.'s Figs. 2 and 4. Alumina or silicon dioxide materials are not traditionally a permanent magnet material.

Accordingly, Fontana et al. neither disclose nor suggest an insulated layer of permanent magnet material disposed between shields and abutting a free layer and, thus, does not disclose or suggest the read head recited in claim 27. .

Similarly, Childress et al. also does not disclose or suggest a read head having structure as recited in claim 27, including an insulated layer of permanent magnet material disposed between shields and abutting a free layer. In contrast, Fig. 2 of the Childress et al. patent shows alumina 52 abutting opposite sides of a free layer 44. Accordingly, it is submitted that claim 27 is patentably distinguished over Fontana et al. or Childress et al. (alone or combination).

Claims 28-36 are dependent (directly or indirectly) on claim 27 and, thus, are believed to be allowable over the Fontana et al. and Childress et al. references (alone or in combination), at least for reasons as discussed above with respect to independent claim 27. Accordingly, the rejections of claims 28-36 are respectfully traversed.

New claims 37 and 38 are added to further protect aspects of the present invention. New claim 37 is dependent on claim 21 and is believed to be allowable, at least for reasons as discussed above with respect to claim 21. In addition new claim 37 is further distinguished from the references of record, in that new claim 37 recites that at least a portion of the electrode at the top of the GMR spin valve stack is located between the pair of regions of patterned exchange material. An embodiment of a read head having an electrode structure as recited in claim 37 is shown in Fig. 7. Neither Fontana et al. nor Childress et al. describe or suggest a read head with an electrode that has at least a portion located between a pair of regions of patterned exchange material. Accordingly, new claim 37 is believed to be in condition for allowance.

New claim 38 recites a read head similar to original claim 27, but reciting that an insulated layer of permanent magnet material is disposed between the shields and abutting opposite ends of the GMR spin valve stack. An example of a read head having an insulated layer of permanent magnet material as recited in claim 27 is shown in Fig. 8 of the present application. Neither Fontana et al. nor Childress et al. disclose or suggest a read head having an insulated layer of permanent magnet material between shields and abutting opposite ends of a GMR spin

valve stack. As noted above, each of Fontana et al. and Childress et al. describe oxide materials abutting opposite ends of a stacked structure.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

Date: June 30, 2006

By: _____
Ted R. Rittmaster
Attorney for Applicant
Registration No. 32,933

FOLEY & LARDNER LLP
Customer Number: 23392
Telephone: (310) 975-7963
Facsimile: (310) 557-8475